

Please Enter:

Model Year: 2017  
Manufacturer Name: Tesla Motors Inc  
Model Name: Model 3 Long Range  
Test Date: 6/16/2017

## Derived 5-cycle MPG Calculations For Electric Vehicles

Values in Yellow fill are used on FE Labels (window stickers)

Used for FCG

I. Calculate Electric vehicle FE Label city, Hwy, Combined FE values using the 2008 (derived 5-cycle) method and the 30% cap method:

Enter unadjusted unrounded kW-hr/100mi Values (in red text blocks) as determined from SAE J1634:

2008 FE Label method (Derived 5-cycle)

Derived 5- cycle City cycle Hwy Adjusted Combined Units

	City	Highway	Combined	
	(round mpg to 0.1mpg)	(round mpg to 0.1mpg)	Calculated unadjusted combined	Units
Elect veh FE	18.0578	19.8891	18.7811	kW-hr/100 mi
Elect veh FE	186.7	171.4	179.4900	mpg

Calculate derived 5-cycle mpg:  
convert back to kW-hr/100 mi:  
Percent adjustment mpg:  
MPG w/ % Cap  
convert back to kW-hr/100 mi:

97.0	93.1	95.2	mpg
34.7	36.2	35.4	kW-hr/100 mi
48.0%	45.7%	47.0%	percent
130.6900	119.9800	125.6430	MPG with Cap
25.7900	28.0922	26.8260	kW-hr/100 mi with % Cap
		26.8	

2017 Label Values:  
Rounded MPG w/% cap:  
Rounded kW-hr/100 mi:

131	120	126
26	28	27

II. Calculate Electric vehicle driving ranges using the unadjusted SAE J1634 method and the 2008 (derived 5-cycle) method:

Enter unadjusted City & Hwy Range Values in miles (in red text blocks) as determined from SAE J1634:

	City Range	Hwy Range	Combined Range	Rounded Range	Units
Calculate unadjusted driving range:	495.11	454.64	476.8985	477	miles
Calculate adjusted driving range (2008 method, No Cap):	257.2	246.9	252.9430	253	miles
Calculate adjusted driving range (2008 method, 27% Cap):	346.6	318.2	333.8290	334	miles
				310	miles

Method:  
Unadjusted (SAE J1634)  
2008 (derived 5-cycle, mpg-based, No Cap)  
2008 (derived 5-cycle, mpg-based, 30% Cap)

Voluntary Reduction of AER on label

III. Calculate Electric vehicle annual fuel cost and 5-year savings, per 40 CFR 600.311-12(e)

2008 MPG Factors:  
ref. 40 CFR 600.210-08

City Intercept: 0.004091  
City Slope: 1.1601  
Hwy Intercept: 0.003191  
Hwy Slope: 1.2945

Enter Average 2017 5-year Fuel Cost: \$7,000  
Enter 2017 U.S. electricity costs: \$0.13 per kw-hr  
(from CD-15-27 for 2017)

Calculate unrounded adjusted combined miles/kw-hr: 3.727727 mi/kw-hr

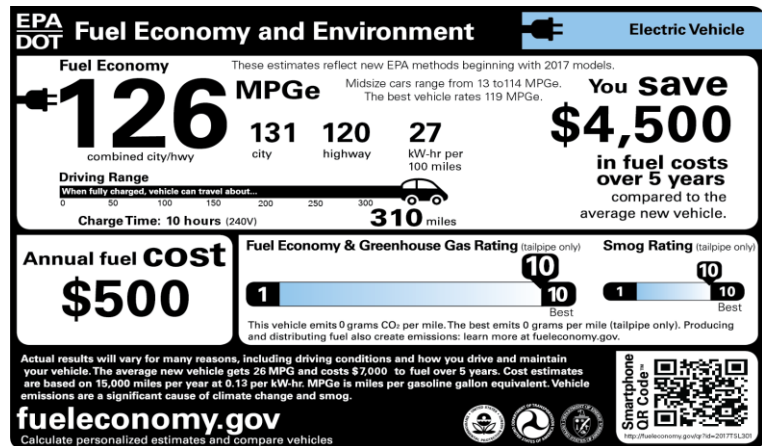
Petroleum Equivalency Factor  
for electricity: ref 10 CFR 474.3  
33,705 watt-hr/gallon w/o 6.667 CAFE incentive  
no fuel fired accessories

Annual Miles	Cost	Units	Unrounded Annual Fuel Cost*	Method
15,000	\$0.13	per kw-hr	\$690.30	2008 (derived 5-cycle, mpg-based, No Cap)
15,000	\$0.13	per kw-hr	\$523.11	2008 (derived 5-cycle, mpg-based, % Cap)

2017 Label Rounded Annual Fuel Cost
\$700.00
\$500.00

2017 Label 5-year Amount You Save:
\$3,500
\$4,500

\*Note: Annual fuel costs should be ASTM rounded to the nearest \$50.



QR Code: <http://fueleconomy.gov/qr?id=2017TSL301>